

DEVELOPMENT OF WEB APPLICATION FOR UML CLASS MODEL BUILDING BASED ON SQL DATABASE

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Often specialists need to see the graphic description of the object model when working with databases. It helps to understand the project as a whole, to see all the relationships between the entities. For these purposes experts develop UML-model, that is the abstract model of the database. Some of CASE-tools allow you to generate the code SQL from the UML-model.

However, there are situations when a specialist faces with already working projects and is researching database, which does not have such the class model in the UML. In such situations, sometimes it is necessary to get a vision of the database as a whole, rather than gradually disassemble the relationship tables and the code in the formal representation. Exactly at this stage, there is a need to transform the database schema from the inner level to conceptual level.

Therefore, the development of applications capable of generating the class-model based on an existing database, is justified and relevant. At the initial stage, the application will be able to process database built only on the relational data model.

Supposed to develop web-application which is realizing the automatic transformation of SQL databases in the class-model. For the analysis of the database is required a certain algorithm, which can be divided into two stages:

the searching of entities and relationships, extraction of attributes and types of stored value, the processing of primary and foreign keys, setting connections between the relations with the help of the keys;

the creating a graphical representation of the processed database based on standard UML, and specification of the type of connection between relationships.

An important aspect of creating an application is a method of recognition of primary and foreign keys, as well as the possibility of their use in the construction of connections between relations. Automatic generation of connections and specification of their type is possible only if the information about primary and foreign keys is used correctly. Before developing the application, it is important to construct an algorithm which will help to process databases and determine whether primary and foreign keys belong to particular relationships.

So the implementation of the project will result in a working web application. The resulting application can be used to speed up the process of creating UML class model.

References

1. Jewett, T. Database design with UML and SQL, 3rd edition [Electronic resource] / Emeritus California State University, 2002-2006. – Mode of access: <http://www.tomjewett.com/dbdesign/dbdesign.php/>. – Date of access: 31.03.2014.